REMARKS

The foregoing amendment amends Claims 1, 5, 12 and 13 to clarify the claimed invention. Claims 1-13 are currently pending in this application. For the reasons set forth below, Applicants believe that the rejections should be withdrawn and that Claims 1-13 are in condition for allowance.

RESPONSE TO APPLICANTS' ARGUMENTS

In the current Office Action the Examiner issued new grounds for rejection. However, in the "Response to Arguments" section of the Office Action, the Examiner addressed Applicants' previous arguments and stated that those arguments were not persuasive.

Applicants respectfully disagree and maintain their previous arguments as presented in the last response filed November 13, 2008. However, since the current Office Action issued new grounds for rejection, Applicants will only address those new grounds in this response.

REJECTION OF CLAIMS 1-13 UNDER 35 U.S.C. 103(a)

The Examiner rejected Claims 1-4 under 35 U.S.C. 103(a) as being unpatentable over U.S. Publication No. 2003/0060162 to Shinagawa *et al.* ("Shinagawa") in view of U.S. Patent No. 6,064,905 to Webster, Jr. *et al.* ("Webster") in view of U.S. Publication No. 2003/0151600 to Takeuchi *et al.* ("Takeuchi"), and further in view of U.S. Publication No. 2004/0066605 to Trinh ("Trinh"). The Examiner rejected Claims 5 and 10-13 under 35 U.S.C. 103(a) as being unpatentable over Shinagawa in view of Webster. The Examiner rejected Claims 6-9 under 35 U.S.C. 103(a) as being unpatentable over Shinagawa in view of Webster, and further in view of Takeuchi. As discussed below, these rejection are respectfully traversed.

Claim 1

The foregoing amendment to Claim 1 clarifies that the transceiver includes "an insulating case that accommodates said transceiver main body, wherein said transmitting and

receiving electrode is continuously provided on a bottom and a side of an external wall surface of said insulating case, so that said transmitting and receiving electrode is adapted to allow said electric field transmission medium to closely approach the bottom and the side." Claim 1 also requires that a first structure is interposed between the transmitting and receiving electrode and the electric field transmission medium.

According to one embodiment, as shown in Figure 27, in addition to the insulating case 33 accommodating the transceiver main body 30, the transmitting and receiving electrode 105 is continuously provided on the bottom and the side of the external wall surface of the insulating case 33, and the insulation film 107 is interposed between the transmitting and receiving electrode 105 and the electric transmission medium 100. As illustrated in Figure 27, because the insulation film 107 is interposed between the transmitting and receiving electrode 105 and the electric field transmission medium 100, the transmitting and receiving electrode 105 is not in direct contact with the electric field transmission medium 100.

When a human hand (electric field transmission medium) holds a traditional transceiver, an electric field for transmission is induced in the human hand from a transmitting and receiving electrode of the transceiver, however a part of the electric field returns from the human hand to the transceiver via a side surface of the insulating case of the transceiver. If the transmitting and receiving electrode is provided only along the bottom of the transceiver, then the induced electric field returned to the insulating case prevents the transceiver from carrying out normal transmission operation. (*See e.g.*, [0038] and Fig. 9).

The embodiment illustrated in Figure 27 overcomes this problem by providing an insulating case 33 that accommodates the transceiver main body 30, and a transmitting and receiving electrode 105 that is continuously attached to the bottom and the side of an external wall surface of the insulating case 33. An insulating film 107 covers the transmitting and receiving electrode 105. The transmitting and receiving electrode 105 and the insulating film 107 cover not only the bottom of the external wall surface of the insulating case 33 but also the side of the external wall surface of the insulating case 33. When an electric field transmission medium 100, such as a human hand holds the transceiver 3a, transmission of

electric fields E1, E2 and E3 are induced from the insulating case 33, however, the return of a part of the electric fields from the human hand 100 to the transceiver 3a via the side surface of the insulating case 33 is restricted. (*See e.g.*, [0232], [0248]-[0249]; Figs. 27, and 30-34).

Figure 11 of Shinagawa illustrates a transceiver 3 including a transmission and reception electrode 105' and an insulation film 106'. The transmission and reception electrode 105' is provided in proximity with the living body 100 through the insulation film 106'. Shinagawa discloses that the electric fields based on transmission data are induced in the living body 100 from the transmission and reception electrode 105' through the insulation film 106'. (*See e.g.,* Abstract, [0067], [0087], [0099]; Figs. 7, 9 and 11).

Shinagawa merely discloses a transmission and reception electrode 105' that is provided in a vicinity of a living body 100 through an insulation film 106'. Shinagawa does not disclose an insulating case that incorporates a transceiver main body, as required by Claim 1. As illustrated in Figure 11 of Shinagawa, the insulation film 106' of the transceiver 3 does not accommodate a transceiver main body. A comparison of Figure 27 of the present application and Figure 11 of Shinagawa, illustrates the distinct differences in the structure of the transceivers.

The Examiner acknowledged that Shinagawa does not disclose a transceiver that includes an insulating case incorporating a transceiver main body, wherein a transmitting and receiving electrode is provided on the bottom and side of an external wall surface of the insulating case. The Examiner alleged that Webster discloses a transmitting and receiving electrode provided on the bottom and side of an external wall surface of the insulating case, so that the transmitting and receiving electrode is adapted to allow the electric field transmission medium to closely approach the bottom and the side.

Webster discloses catheters for mapping the direction and velocity of electrical activity in the heart. A multi-element tip electrode 35 is provided on the distal end of the catheter. The multi-element tip electrode 35 includes a non-conductive matrix 37 having a plurality of holes 54. Electrode members 52 are mounted within the non-conductive matrix 37. Each electrode member 52 is cylindrically shaped, having a generally round cross-sectional area. The *electrode members 52 are arranged about and fixed within the holes 54*

of the non-conductive matrix 37 such that when the distal end of the catheter comes in contact with the myocardium, *at least two electrode members 52 make contact with the tissue.* In addition, a non-conductive base 38 may be mounted on the distal end of the catheter. The non-conductive base 38 includes a plurality of holes 60. The non-conductive matrix 37 overlaps the non-conductive base 38. (*See*, Col. 6, ll. 17-53; Col. 8, ll. 60-66; and Figs. 3A-C).

According to another embodiment taught by Webster, the multi-element tip electrode 35 is in the form of a split-tip electrode and includes a plurality of electrode members 88. Each electrode member 88 has two interior sides 90 and an exterior surface 92. One interior side 90 of each electrode member 88 is opposed to one interior side 90 of an electrode member 88 adjacent to each electrode member 88 via an insulating member 94. The *electrode members 88 are electrically isolated from one another by the insulating member 94.* The exterior surface 92 of each electrode member 88 is exposed such that when the distal end of the catheter comes in contact with the myocardium, *the electrode members 88 make contact with the tissue.* (*See*, Col. 9, ll. 9-53; and Figs. 6-8).

Webster discloses that the electrode members are arranged on the bottom and the side of the external wall surface of the catheter. However, the non-conductive matrix or the insulating material is arranged between the electrode members. Webster does not disclose or suggest that the electrode members 52 (or 88) are continuously provided on a bottom and a side of an external wall surface of the catheter, so that the electrode members 52 (or 88) are adapted to allow the tissue to closely approach the bottom and side, and that a first structure is interposed between the electrode members 52 (or 88) and the tissue, as required by amended Claim 1.

Webster discloses that the electrode members are fixed within the holes of the non-conductive matrix or isolated from one another by the insulating film, and at least some of the electrode members make direct contact with the tissue (electric transmission medium). Webster does not disclose or suggest that a structure is interposed between the electrode members 52 (or 88) and the tissue, as required by Claim 1. Therefore, the transceiver of Shinagawa as modified by Webster cannot overcome the above-described traditional

transceiver problem, because a part of the electric field would return from the human hand to the transceiver via the non-conductive matrix or the insulating material arranged between the electrode members.

Furthermore, one of ordinary skill in the art at the time of the invention would not be motivated to combine Shinagawa and Webster, because the references teach away from each other. As discussed above, Shinagawa teaches an insulation film between the electrode and the living body. (*See*, Fig. 10). In contrast, Webster teaches that at least some of the electrodes make direct contact with the human body (tissue). Thus, one of ordinary skill in the art at the time of the invention would not deem the Shinagawa teachings to be relevant to the Webster teachings.

Even if Shinagawa and Webster were combined it would not result in the transceiver defined by Claim 1. Combining Shinagawa and Webster would result in a transceiver that includes an insulation film arranged between some of the electrodes and the living body, and some electrodes protruding through the insulation film, such that those electrodes could make direct contact with the living body.

Shinagawa in combination with Webster does not disclose or suggest a transceiver that includes, an insulating case accommodating a transceiver main body, and a transmitting and receiving electrode that is continuously provided on the bottom and side of an external wall of the insulating case, so that the transmitting and receiving electrode is adapted to allow the electric field transmission medium to closely approach the bottom and the side, and a structure interposed between the transmitting and receiving electrode and the electric field transmission, as required by Claim 1. In addition, neither the figures nor corresponding sections of Takeuchi and/or Trinh cited by the Examiner disclose or suggest the claimed configuration. Accordingly, Claim 1 would not have been obvious to one of ordinary skill in the art at the time of the invention based on a modification of the Shinagawa transceiver in view of the teachings of Webster, Takeuchi and Trinh. Claim 1 is patentable over Shinagawa in view of Webster, in view of Takeuchi and further in view of Trinh.

Claims 2-4

Claims 2-4 depend from Claim 1. Accordingly, for at least the same reasons discussed above, Claims 2-4 are patentable over Shinagawa in view of Webster, in view of Takeuchi and further in view of Trinh.

Claims 5, 12 and 13

Similar to Claim 1, amended independent Claims 5, 12 and 13 require a transceiver that includes an insulating case that accommodates the transceiver main body, wherein the transmitting electrode (required by Claims 5 and 12) or receiving electrode (required by Claim 13) is continuously provided on a bottom and a side of an external wall surface of the insulating case, so that the transmitting electrode (required by Claims 5 and 12) or receiving electrode (required by Claim 13) is adapted to allow the electric field transmission medium to closely approach the bottom and the side, and the transmitting electrode (required by Claims 5 and 12) or receiving electrode (required by Claim 13) is covered with an insulating film so as not to be in direct contact with the electric field transmission medium . As discussed above, Shinagawa in view of Webster does not disclose or suggest the claimed configuration. More specifically, Webster teaches that the electrode members come in direct contact with the tissue, as such, Webster teaches away from Claims 5, 12 and 13. Accordingly, for at least the same reasons discussed above, Claims 5, 12 and 13 are patentable over Shinagawa in view of Webster.

Claims 10 and 11

Claims 10 and 11 depend from Claim 5. Accordingly, for at least the same reasons discussed above, Claims 10 and 11 are patentable over Shinagawa in view of Webster.

Claims 6-9

Claims 6-9 depend from Claim 5 and Takeuchi also fails to disclose or suggest the claimed configuration of Claim 5. Accordingly, for at least the same reasons discussed above, Claims 6-9 are patentable over Shinagawa in view of Webster and further in view of Takeuchi.

CONCLUSION

The foregoing is submitted as a complete response to the Office Action identified above. This application should now be in condition for allowance, and Applicants solicit a notice to that effect. If there are any issues that can be addressed via telephone, the Examiner is asked to contact the undersigned at 404.532.6946. The Commissioner is authorized to charge any additional fees that may be due or credit any overpayment to Deposit Account No. 11-0855.

Respectfully submitted,

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